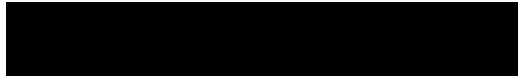


EXHIBIT 4



**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

TQ DELTA, LLC,	§	
Plaintiff,	§	
	§	JURY TRIAL DEMANDED
v.	§	
	§	
COMMSCOPE HOLDING COMPANY,	§	
INC., COMMSCOPE INC., ARRIS	§	
INTERNATIONAL LIMITED, ARRIS	§	
GLOBAL LTD., ARRIS US HOLDINGS,	§	Civil Action 2:21-cv-310-JRG
INC., ARRIS SOLUTIONS, INC., ARRIS	§	(Lead Case)
TECHNOLOGY, INC., and ARRIS	§	
ENTERPRISES, LLC,	§	
	§	
NOKIA CORP., NOKIA SOLUTIONS	§	
AND NETWORKS OY, and NOKIA OF	§	Civil Action No. 2:21-cv-309-JRG
AMERICA CORP.	§	(Member Case)
	§	
Defendants.	§	

**PLAINTIFF TQ DELTA’S FIRST SET OF INTERROGATORIES
TO THE COMMSCOPE DEFENDANTS (Nos. 1-18)**

Plaintiff TQ Delta, LLC hereby serves Defendants CommScope Holding Company, Inc., CommScope Inc., ARRIS International Limited, ARRIS Global Ltd., ARRIS US Holdings, Inc., ARRIS Solutions, Inc., ARRIS Technology, Inc., and ARRIS Enterprises, LLC the following interrogatories (below) pursuant to Federal Rule of Civil Procedure 33 and the continuing obligation under Federal Rule of Civil Procedure 26(e).

DEFINITIONS

The following terms and definitions shall apply to this set of interrogatories:

1. “CommScope,” “Defendant,” “Defendants,” “You” and/or “Your” mean CommScope Holding Company, Inc., CommScope Inc., ARRIS International Limited, ARRIS

Global Ltd., ARRIS US Holdings, Inc., ARRIS Solutions, Inc., ARRIS Technology, Inc., and ARRIS Enterprises, LLC, and all their predecessors, successors, present and former partners, investors, corporate parents, affiliated companies or corporations, direct or indirect subsidiaries, divisions, business units, and all past or present officers, directors, employees, agents, consultants, attorneys, servants, accountants, representatives, and all other persons acting, or purporting to act, on its or their behalf.

2. “TQD,” “TQ Delta,” or “Plaintiff” refers to plaintiff TQ Delta, LLC and all its predecessors, successors, officers, directors, employees, agents, attorneys, servants, representatives, and all other persons acting, or purporting to act, on its or their behalf.

3. “Accused Products,” “Accused Instrumentality,” and “DSL Products” means:

(a) every product, system, method, and/or instrumentality identified in TQD’s Complaint and/or Plaintiff’s Infringement Contentions and amendments and supplements thereto, including all substantially similar products, systems, methods, and/or instrumentalities, and all associated computer hardware, software, and digital content;

(b) all products, systems, methods, and/or instrumentalities that are made, used, sold, offered for sale, and/or imported by Defendant for which Defendant seeks a declaration of non-infringement; and

(c) all products, systems, methods, instrumentalities, including customer premises equipment and central office equipment, that utilize or operate based upon and/or in compliance with the VDSL2 standards (e.g., ITU-T 993.2) as well as any other standard that requires implementation of VDSL2 such as G.Vector, the G.Bond standards (e.g., ITU-998.2), the G.inp standards (e.g., ITU-T 998.4), and/or the G.fast standards (e.g., G.9701) or that have been claimed or advertised by Defendant as using or being operable or

compliant with any of the foregoing standards, and components thereof, made by or for the Defendant for the ultimate sale to third-parties or sale/lease to customers by third- parties.

This definition includes, without limitation, CommScope's DSL Products, including consumer premises equipment, that have utilized the VDSL2 standards (*e.g.*, ITU-T 993.2) as well as any other standard that requires implementation of VDSL2 such as G.Vector, the G.Bond standards (*e.g.*, ITU- 998.2), G.inp standards (*e.g.*, ITU-T 998.4), and the G.fast standards (*e.g.*, G.9701).

4. "Accused Functionality" refers to the functionality illustrated by TQ Delta in its Infringement Contentions, amendments thereto, or subsequent notices and disclosures, and any reasonably similar functionality, that is incorporated into any of your products and services.

5. "Asserted Patents" or "Patents-in-Suit" refers to US Patent Nos. 7,453,881 ("the '881 Patent"), 7,570,686 ("the '686 Patent"), 7,844,882 ("the '882 Patent"), 8,090,008 ("the '008 Patent"), 8,276,048 ("the '048 Patent"), 8,462,835 ("the '835 Patent"), 8,468,411 ("the '411 Patent"), 8,937,988 ("the '988 Patent"), 9,094,348 ("the '348 Patent"), 9,154,354 ("the '354 Patent"), 9,485,055 ("the '055 Patent"), 10,567,112 ("the '112 Patent"), 10,833,809 ("the '809 Patent") and any other patents TQ Delta adds to its infringement contentions in this case.

6. "And" or "or" shall be both conjunctive and disjunctive.

7. "Any" or "each" should be understood to include and encompass "all."

8. "Communication" means any conveyance of information from one or more persons to one or more other persons and includes, but is not limited to, oral, written, electronic, verbal, and nonverbal modes.

9. "Complaint" refers to the currently operative complaint filed by Plaintiff in the Litigation.

10. “Concerning” means relating to, referring to, describing, evidencing or constituting.

11. “Convoyed Products” means each and every product and/or service used, sold, offered for sale, or licensed in the United States by you that is intended to be used along with, in connection with, or related to the use of, any Accused Products, Including product maintenance, training, service, and/or updates.

12. “Date” means the exact day, month and year, if ascertainable, or if not, the best approximation (including relationship to other events).

13. “Document” and/or “Thing” shall have the broadest definition possible under Federal Rule of Civil Procedure 34 and Federal Rule of Evidence 1001, and shall include without limitation, any and all writings, communications, correspondence, emails, drawings, graphs, charts, recordings, photographs, and images. The foregoing specifically includes all forms of electronically stored information (“ESI”), whether in a computer database or otherwise, regardless of whether such documents are presently in documentary form or not. A draft or non-identical copy is a separate document within the meaning of this term. As used herein, “thing” also means any tangible item(s), other than a “document” as defined herein, which constitute or contain matters within the scope of Federal Rule of Civil Procedure 26(b).

14. “Electronically stored information” or “ESI” means any document that can be or has been stored in electronic form on a server, tape, electronic media such as an internal or external hard drive or any media whereby the document can be saved and be available for retrieval using any retrieval device, including a computer or server.

15. “Entity” or “Entities” includes natural persons, proprietorships, partnerships, firms, corporations, public corporations, municipal corporations, governments (including foreign

national governments, the government of the U.S. or any state or local government), all departments and agencies thereof, any governmental agencies of any country, political subdivisions, groups, associations, or organization.

16. “Evidencing” means proving, indicating, or being probative of the existence or nature of the subject of the document requests.

17. “Identify” when used in reference to:

(a) An individual, means to state his or her full name, present or last known residential and business addresses, present or last known position and business affiliation, and if applicable, the history of employment of that individual;

(b) A firm, partnership, corporation, proprietorship, joint venture, association, or other organization or entity, means to state its full name, present or last known address and place of incorporation or formation, and to identify each agent that acted for it with respect to the matters relating to the request or answer;

(c) A Document, means to state the Date, title, if any, subject matter, each author, each addressee or recipient if practicable, and otherwise a general description of the persons to whom the writing was distributed, the production number, and the type of Document, *i.e.*, publication, letter, memorandum, book, telegram, chart etc., or some other means of identifying the Document, and its present location and custodian;

(d) A Communication, means to state its Date and place, the person(s) who participated in it or who were present during any part of it or who have knowledge about it;

(f) A product, service, or intellectual property, means to state all names and numbers related to the product, service, or intellectual property, and the owner,

manufacturer, distributor, licensor, or dealer of the product, service, or intellectual property during the relevant time period and currently. For a product, provide all designations for the product, from the most specific to the most general, including any model numbers or designations, version numbers or designations, and internal numbers or designations;

(g) A fact or circumstance, means to state in reasonable detail all facts within Your knowledge, custody, or control, or that should be available to You based upon reasonable inquiry that form the basis of Your information, including identifying any relevant individuals, entities, Documents, Communications, Dates, and products;

(h) Prior art that is a patent, identify its number, country or origin, and Date of issue;

(i) Prior art qualifying (or that You claim and/or believe qualifies) under 35 U.S.C. § 102(b), specify the item offered for sale or publicly used or known, the Date the offer or use took place or the information became known, and the identity of the person or entity who made the use, or who made the offer and to whom it was made, or the person or entity who made the information known and to whom it was made known;

(j) Prior art qualifying (or that You claim and/or believe qualifies) under 35 U.S.C. § 102(f), provide the name of the person(s) from whom and the circumstances under which the invention or any part of it was derived;

(k) Prior art qualifying under 35 U.S.C. § 102(g), provide the identities of the person(s) or the entities involved in and the circumstances surrounding the making of the invention before the patent applicant(s); and

(l) A place or location, means state the address, city, state, country, and postal code.

18. “Infringe” and “infringement” refer to direct infringement, contributory infringement, and/or **induced infringement**, and literal infringement and/or infringement under the doctrine of equivalents.

19. “Involving” is used in its broadest sense to mean without limitation including, employing, entailing, comprehending, and/or affecting.

20. The “Litigation” means the above-captioned lawsuit.

21. “Person” means any natural person, legal entity, or business entity, including but not limited to any corporation, partnership, proprietorship, trust, association, organization or group of persons.

22. “Prior art” means all things, patents, publicly available patent applications, publications, disclosures, uses, sales, offers for sale, or other things, acts, or occurrences that qualify as prior art under 35 U.S.C. §§ 102 and/or 103 (including any amendments to these statutes) that Defendant contends relates to the scope or validity of one or more claims of any of the Asserted Patents.

23. Unless otherwise stated, “Relevant period” means the period from the date of first development of the Accused Instrumentalities through the present.

24. “Relates,” “relating,” “refers to,” or “regarding” means any relationship of whatever kind or nature, be it direct or indirect, and includes without limitation embodying, connected with, commenting upon, responding to, showing, describing, analyzing, reflecting, supporting and constituting.

25. “**Software**” should be understood broadly to include any and all operating systems, utilities, tools, programs, applications, executables, interfaces, libraries, drivers, **updates**, instructions, procedures, information and/or related documentation that enable operation of any

Accused Product, or any component thereof, or are otherwise intended for use and/or actually used with any Accused Product.

26. “Source Code” means any set of instructions, directives, commands, abstractions, expressions, or representations capable of being interpreted, compiled, or executed by a computer, whether written in any command-line interface, compiled language, interpreted language, scripting language, data/query language, or markup language.

27. “ADSL” means asymmetric digital subscriber line.

28. “DSL” means digital subscriber line.

29. “VDSL” means very-high-bit-rate digital subscriber line.

30. “VDSL2” means the DSL protocol defined by the ITU-T G.993.2 standard as well as any other standard that requires implementation of VDSL2 such as G.Vector.

31. “ADSL2” means the DSL protocol defined by the ITU-T G.992.3 standard.

32. “ADSL2+” means the DSL protocol defined by the ITU-T G.992.5 standard.

33. “G.inp” means the DSL protocol defined by the ITU-T G.998.4 standard.

34. “G.Bond” means the DSL protocol defined by the ITU-T G.998.1 standard or the ITU-T G.998.2 standard.

35. “G.fast” means the DSL protocol defined by the ITU-T G.9701 standard.

36. “DSL Standards” means the DSL standards defined in paragraphs 27-35 above.

37. “CPE” means customer premises equipment.

38. “CO” means central office equipment.

39. “ODM” means Original Design Manufacturer.

40. References to any natural person shall include, in addition to the natural person, any agent, employee, representative, attorney, superior, or principal thereof.

41. References to any entity shall include, in addition to the entity, any officer, director, employee, partner, corporate parent, subsidiary, affiliate, agent, representative, attorney, or principal thereof.

42. The use of the term “the” shall not be construed as limiting the request.

43. Use of the singular shall also include the plural, and vice-versa.

44. Words and phrases are to be given their ordinary meaning consistent with Federal Rule of Civil Procedure 1 and shall not be unduly or restrictively construed to avoid responding to the fair scope of the interrogatories.

INSTRUCTIONS

1. These interrogatories shall be deemed to seek answers as of the date of service thereof and to the full extent of the Federal Rules of Civil Procedure. These interrogatories are of a continuing nature and You are required to file and serve supplemental responses promptly if You obtain further or different information after the date of Your initial answer.

2. If the information requested is not readily available from Your records in exactly the form requested, furnish carefully prepared estimates, designated as such and attached explanations of any estimate used.

3. If you object to any portion of any interrogatory, respond to the portions to which your objection does not apply.

4. If You do not answer any interrogatory, or part thereof, because of a claim of privilege or any other claim, set forth the privilege claimed, the facts upon which You rely to support the claim or privilege, and furnish a list identifying each item of information for which privilege is claimed, including:

(a) a brief description of the nature and subject matter;

- (b) the date the information was acquired or came into existence; and
- (c) the name and title of the individual(s) who generated, provided, and received the information.

INTERROGATORIES

INTERROGATORY NO. 1

Identify separately for each Accused Product the name(s), model number(s), stock keeping unit number(s) (SKU), project name(s), inventory number(s), code name(s), and other internal designation(s) that correspond to the Accused Product and to the DSL chip(s), DSL chipset, DSL component(s) or DSL module(s) of the Accused Product.

INTERROGATORY NO. 2

Identify separately and with particularity each model of device for which CommScope seeks a declaration of non-infringement and any other device made or sold by CommScope since 2015 that is, or was intended to be, compliant with, and/or operates, or was intended to operate, in accordance with, any part or subpart of the DSL Standards.

INTERROGATORY NO. 3

For each Accused Product, state and explain with particularity each reason why CommScope contends that such Accused Product does not infringe, directly or indirectly, each asserted claim of TQ Delta's Asserted Patents that are identified in TQ Delta's Infringement Contentions (and any amendment, and supplement thereto) and include in Your response an identification of the claim element(s) that CommScope contends are not included in each Accused

Product that You contend does not infringe and explain in detail why each such element is not included (both literally and under the doctrine of equivalents), an identification of any contention with which You disagree and explain in detail why You disagree, and an identification of the person(s) employed by CommScope (other than legal counsel) most knowledgeable regarding the same.

INTERROGATORY NO. 4

For each Accused Product, state and explain whether the product implements the parts or subparts of the DSL Standards identified in TQ Delta's Infringement Contentions (and any amendment, and supplement thereto) and include in Your response an identification of the documents and things sufficient to show the same and an identification of the person(s) employed by CommScope (other than legal counsel) most knowledgeable regarding the same.

INTERROGATORY NO. 5

For each patent claim asserted in TQ Delta's Infringement Contentions (and any amendment, and supplement thereto), state whether such claim is essential to the implementation of one or more of the DSL Standards, identify the DSL Standards for which such patent claim is essential, and identify and explain all reasons why such claim is, or is not, essential.

INTERROGATORY NO. 6

Describe in detail the steps taken, by any person or entity, to determine if any of the Accused Products is compliant with, or at least compatible with, operation in accordance with any part or subparts of the DSL Standards and include in your response an identification of the

documents and things relating to, referring to, and/or involving the same and an identification of the person(s) employed by CommScope (other than legal counsel) most knowledgeable regarding the same.

INTERROGATORY NO. 7

For each Accused Product, identify the sales in units, gross revenue, net revenue, costs (including but not limited to costs of goods sold, material costs, operating costs, research & development costs, marketing costs, sales costs, royalty expenses), and profit (gross profits, operating profit, net income, gross profit margins, contribution margins, operating profit margins, net profit margins), since the date of first commercialization of each Accused Product, broken down by month, quarter, and year, separately for the U.S. and outside of the U.S.; and the place(s) of manufacture and assembly of the Accused Product, and include in your response an identification of each revenue and cost component; the methodology used to calculate the revenue, costs, and profit; the documents and things sufficient to show the same; and an identification of the person(s) employed by or within CommScope (other than legal counsel) most knowledgeable regarding the same.

INTERROGATORY NO. 8

For each Accused Product, identify the manufacturer, product name, and model number of the components, including semiconductor chip(s), that provide, enable, or embody operation in accordance with one or more of the DSL Standards; and include in your response an identification of the documents and things relating to, referring to, and/or involving the same and an

identification of the person(s) employed by or within CommScope (other than legal counsel) most knowledgeable regarding the same.

INTERROGATORY NO. 9

State whether CommScope contends that any of TQ Delta's Asserted Patents are licensed or exhausted with respect to any of the Accused Products and, if so, identify to which patent(s) and Accused Product(s) such license or exhaustion applies, and explain the complete basis for such contention, including without limitation an identification by at least name and model number of any third-party component of the Accused Product that is asserted to be licensed under any Patents-in-Suit.

INTERROGATORY NO. 10

Describe how CommScope supports or supported the Accused Products, including how product literature is distributed, phone or internet support is provided, field support is provided, warranty support is provided, and any other assistance to operators, installers, service providers, resellers, or users of those devices; and identify all documents and things (by production no.) relating to or referring to the foregoing and the person or persons employed by or within CommScope (other than legal counsel) most knowledgeable regarding the foregoing.

INTERROGATORY NO. 11

Describe the circumstances under which CommScope first became aware of each of the Asserted Patents, including, but not limited to an identification and description of the date, the persons involved (identify who first became aware of each of the Asserted Patents and identify all

other persons, if any, who became aware of each of the Asserted Patents in or around that period), what information was obtained, and how such information was obtained, and identify any documents relating to these circumstances, including identifying any such documents by Bates Numbers.

INTERROGATORY NO. 12

Set forth in detail all factual and legal bases for CommScope's contention that TQ Delta has breached any of its obligations under the ITU or any other standard-setting bodies, including but not limited to, any alleged bases for TQ Delta's obligation toward CommScope. Your response should include (but is not limited to) an identification of the relevant standards, which products of CommScope are asserted to embody the subject standard, the factual basis for any alleged breach, all alleged damage suffered as a result of the alleged breach, all documents and things (by production number) relating to, referring to and/or involving the foregoing, and the three individuals (other than legal counsel) most knowledgeable about the foregoing.

INTERROGATORY NO. 13

Identify all alleged available alternative technologies to the Accused Products and the DSL Standards for implementing broadband service or other service or product, including any planning, testing, market introduction, and related financial analysis of same by CommScope and/or others. Your response should describe any alternatives that are alleged to have existed at any time and the facts regarding alleged acceptability and feasibility (technologically and economically), availability, and non-infringement; any alternatives that are alleged to exist or would have existed or been available at the date of the alleged hypothetical negotiation (and/or the dates of first use,

sale, offer for sale, and/or importation of the Accused Products); the date when You first became aware of each alleged alternative; the cost to implement each alleged alternative; Your use, implementation, study, testing at any time of each alleged alternative; and any consideration of alternatives at any time – including performance, price, and availability of the same. Your response should include an identification of all documents and things (by production number) relating to, referring to, and/or involving the foregoing subject matter and the three individuals employed by or within CommScope (other than legal counsel) most knowledgeable about the foregoing.

INTERROGATORY NO. 14

Describe in detail CommScope's efforts to identify and avoid infringement of the Asserted Patents, including any attempts to design around or develop any alleged non-infringing alternatives to any Asserted Patent or ceasing to make, use sell, or offer to sell in the United States or import into the United States any Accused Products. Your response should also include an identification of all documents and things (by production number) relating to, referring to, and/or involving the foregoing subject matter and the three individuals (other than legal counsel) most knowledgeable about the foregoing.

INTERROGATORY NO. 15

Identify, for each of the Accused Products, the date on which the product was first made, used, sold, offered for sale, or imported in the United States, and if applicable, the date on which the product ceased being sold or offered for sale in the United States, and identify by Bates number

documents indicating the same and the three individuals employed by or within CommScope (other than legal counsel) most knowledgeable about the foregoing.

INTERROGATORY NO. 16

Set forth in detail your contention regarding what constitutes reasonable and nondiscriminatory licensing terms (i.e., that comply with applicable ITU patent policies), including fees, rates, or ranges of the same, for the license of any and/or all of the claims of the asserted patents and the basis for the same; to the extent your contention is based on a count or other assessment of the number of patents or patent families that are essential to practice any applicable DSL Standard, set forth your assertion of the number of standard-essential patents and/or patent families and the basis therefor; to the extent that your contention is based on an assertion of a smallest saleable patent practicing unit (“SSPPU”), set forth the asserted SSPPU for each asserted patent claim and accused product and the basis therefor; and to the extent that your contention is based on any alleged comparable licenses or other facts, identify each such license that you contend is comparable and the basis for each such contention and identify all such other supporting facts. You should also identify the persons (other than legal counsel) who are most knowledgeable about the foregoing and the documents and things (by Bates no.) that you contend support each such contention.

INTERROGATORY NO. 17

Identify and describe each patent license agreement to which You are or have been a party, signatory, or beneficiary at any time that covers or relates to the Accused Products; DSL chip(s), DSL chipset(s), DSL component(s), or DSL module(s) related to the Accused Products; and the

DSL Standards for implementing broadband service. Your response should include an identification of (i) the Date of the agreement; (ii) the parties to the agreement; (iii) the patent(s) involved; (iv) the product(s) or component(s) covered; (v) the amount paid and/or consideration exchanged, including any applicable royalty rate, royalties paid upfront/lump-sum payments, or technology/patents transferred; (vi) the circumstances surrounding Your entry into such agreements; and (vii) all Documents and things (by Bates no.) relating to, referring to, and/or involving the foregoing subject matter and the three individuals (other than legal counsel) most knowledgeable about the foregoing.

INTERROGATORY NO. 18

Identify the minimum skills, qualifications, and criteria You contend are applicable to a person of ordinary skill in the art of the Asserted Patents, and state all legal and factual bases for Your contention.

Dated: February 9, 2022

Respectfully submitted,

By: /s/ William E. Davis, III
William E. Davis, III
Texas State Bar No. 24047416
bdavis@davisfirm.com

Edward Chin
Texas State Bar No. 50511688
echin@davisfirm.com

Christian J. Hurt
Texas State Bar No. 24059987
churt@davisfirm.com

Rudolph "Rudy" Fink IV
Texas State Bar No. 24082997
rfink@davisfirm.com

The Davis Firm PC
213 N. Fredonia Street, Suite 230
Longview, Texas 75601
Telephone: (903) 230-9090
Facsimile: (903) 230-9661

**ATTORNEYS FOR PLAINTIFF
TQ DELTA, LLC**

CERTIFICATE OF SERVICE

The undersigned certifies that the foregoing document is being served this February 9, 2022, on all counsel of record, each of whom is deemed to have consented to electronic service. L.R. CV-5(a)(3)(A).

/s/ William E. Davis, III
William E. Davis, III